Putting the "T" in LGBT: A pilot test of questions to identify transgender people in the California Health Interview Survey

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Abstract
As a large population-based health survey of the nation's most diverse state, the California Health Interview Survey (CHIS) provides relatively large samples of relatively rare population groups. Despite being the "T" in LGBT, transgender persons have been left out of CHIS and other population-health surveys. The combination of low prevalence (estimated at less than 1%) and varied definitions of the term "transgender" have led to assumptions that identifying transgender persons is difficult in general public health surveys. CHIS pilot tested four versions of gender identity questions in the final quarter of 2014. Versions were randomly assigned across approximately 3,000 respondents age 18 to 70. The pilot test was administered in English and Spanish and was conducted in production data collection, producing results that are direct estimates of the transgender population and a test of question wording effects. We present differences in transgender identification, missing data rates, and interview breakoffs across the four versions. Our pilot test results suggest that these questions can be successfully administered in population-health surveys.

Key Words: Transgender, LGBT, measurement, population health surveys

1. Introduction

Until recently, no large-scale population-based health surveys have attempted to measure gender identity or transgender status, leading to a significant public-health knowledge gap for this population. Without population estimates of this group, basic facts about this unique and vulnerable population are lacking, despite ample evidence from other surveys that they are at increased risk for certain health and wellbeing outcomes (Grant et al. 2011; Reisner et al. 2014; Perez-Brumer et al. 2015; Wilson & Kastanis 2015). This paper provides a brief history of gender identity measurement in surveys, and reports results from an experimental test of gender identity questions in the California Health Interview Survey (CHIS). The overwhelming finding is that a two-step version that first asks the respondent's sex assigned at birth, followed by their currently-identified gender is the easiest to administer (see more details in Jans et al. 2015 SRMS proceedings), has among the lowest item nonresponse rates, and obtains transgender identification rates similar to the few other benchmark estimates available. In short, gender identity questions can and should be asked more regularly in public health surveys.

1.1 A very brief history of transgender measurement in surveys and best practices

Until the test reported here, few population-based, probability sample surveys in the United States have asked questions about gender identity, and no reliable benchmarks were available for California. In the 2007 through 2009 the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), adults age 18 to 54 were asked one transgender question and found a transgender identification rate of 0.5% (Conron et al. 2012). The question used in the Massachusetts BRFSS was:

"Some people describe themselves as transgender when they experience a different gender identity from their sex at birth. For example, a person born into a male body, but who feels female or lives as a woman. Do you consider yourself to be transgender?"

2. Method

For CHIS, measuring gender identity is an important step in a long history of surveying marginalized populations and "statistically-invisible" groups, such as Asian ethnic groups (e.g., Chinese, Filipino, Korean, South Asian, Vietnamese, Cambodian, Japanese), Latino ethnic groups (e.g., Mexican, Salvadoran, Guatemalan, European, South American), linguistic minorities (e.g., Chinese, Korean, Spanish, Tagalog, and Vietnamese speakers), non-citizens, and people who identify as lesbian, gay, or bisexual (LGB).

2.1 Questions tested

Four versions of gender-identity questions were tested in CHIS. Two of the versions were "one-step" that asked a single question and the other two were "two-step" versions that asked two questions. Each one-step version used a different phrasing to define transgender. The two-step versions did not attempt to define transgender, but first asked for the respondent's sex as originally recorded on their birth certificate, and then asked whether they currently describe themselves as male, female, or transgender.

One-step Version 1

"Some people describe themselves as transgender when they experience a different gender identity from their sex at birth. For example, a person born into a male body, but who feels female or lives as a woman. Do you consider yourself to be transgender?"

One-step Version 2

"Sex is what a person is born. Gender is how a person feels. When a person's sex and gender do not match, they might think of themselves as transgender. Are you transgender?"

Two-step Version 1

Q1 "What sex were you assigned at birth, on your original birth certificate?"

Q2 "Do you currently describe yourself as male, female, or transgender?'

Two-step Version 2

Q1 "What sex were you assigned at birth, on your original birth certificate?"

Q2 "Do you currently describe yourself as male, female, transgender, are you not sure yet, or do you not know what this question means?"

For this last two-step version, the qualifying phrase "are you not sure yet, or do you not know what this question means" comes from a question originally tested with teens. Given the novelty of asking transgender questions, we decided to keep it in case respondents did not understand what the question was about but would be afraid to say so.

2.2 Experimental implementation

During the fourth quarter of CHIS 2014, adult respondents age 18 to 70 who were interviewed in English or Spanish were randomly assigned to one of the four versions of gender identity questions. The age restriction was consistent with that used for several other questions on sexual behavior and sexual orientation at the time of the experiment; the gender identity questions were placed in the same section, about mid-way through the interview. The gender identity question/s followed the sexual orientation questions in that section.

Respondents (N = 2,828) were randomly-assigned to one of the four question versions.

3. Results

3.1 Identification and missing data rates

Table 1 provides the unweighted frequency distribution of responses to the aggregated sample across all four gender identity versions and shows that 0.3% of respondents identified themselves as transgender. Responses were not obtained from 1.3%; this includes don't know, refusals, and other responses that could not be coded.

Table 1. Overall unweighted transgender identification rates and item nonresponse rate

Transgender status	**Number**	**Percent**
Not transgender	2,783	98.4%
Transgender	9	0.3%
Not ascertained	36	1.3%
Total	**2,828**	**100.0%**

Table 2 breaks out the response distribution by version. It is interesting that the unweighted transgender identification rate is nearly identical across all four versions, with three of four obtaining the same rate (0.3%). Also notable is the not-ascertained (missing data) rates, which is highest in the one-step v2 (2.3%) and second highest in two-step v2 (1.7%). These are substantially higher than the 0.3% and 0.7% rates found in the other two versions. We attribute the higher missing data rate in the one-step v2 to the definition used, perhaps because it uses more common language for explaining transgender status (e.g., how someone was born versus how they now feel), but our study did not include follow up questions to determine why that definition was more confusing than the one-step v1 definition. The one-step version 1 text is longer than the one-step version 2, but includes an example which may have made it clearer and easier to answer. The higher rate in the two-step v2 question is likely due to the explicit option to say "I don't know what this question means."

Table 2. Unweighted transgender identification rates and item nonresponse rate by question

Version	Transgender status	Number	Percent
2-step version 1	Not transgender	683	99.0%
	Transgender	2	0.3%
	Not ascertained	5	0.7%
	Total	**690**	**100.0%**
2-step version 2	Not transgender	704	97.9%
	Transgender	3	0.4%
	Not ascertained	12	1.7%
	Total	**719**	**100.0%**
1-step version 1	Not transgender	678	99.4%
	Transgender	2	0.3%
	Not ascertained	2	0.3%
	Total	**682**	**100.0%**
1-step version 2	Not transgender	718	97.4%
	Transgender	2	0.3%
	Not ascertained	17	2.3%
	Total	**737**	**100.0%**

A review of break-offs (i.e., hang-ups) during this question showed several break-offs during this questionnaire section, but none during or immediately after the GI items.

4. Discussion

We were surprised and delighted that administration of the gender identity questions in CHIS was remarkably uneventful. Based on several factors, our overwhelming choice as the best performing gender identity version was the two-step version one. This version had among the lowest not ascertained levels, was the fastest version to administer, and exhibited very few problems in administration based on qualitative monitoring. Quantitative and qualitative monitoring of interviewer-respondent interactions found that this question was the quickest to administer, despite being composed of two questions (see Jans et al. 2015 in the SRMS proceedings for more detail on gender identity monitoring). Overall, problems in administering the gender identity questions were rare. The frequency review presented here suggests low levels of nonresponse for two versions (1-step version 1 and 2-step version 1). Overall, item nonresponse rates in CHIS are low, in the 1-2% range (with the exception of income); item nonresponse rates of the gender identity versions tested were low and consistent with this range.

Another important advantage of the two-step question is that it likely produces better transgender prevalence estimates by allowing respondents to report both their sex assigned at birth and their current gender identity. It does not require a respondent to

identify as "transgender" to be considered transgender, as is the case for the one-step versions. For example, someone who was assigned female at birth and transitioned to a man years ago may simply identify as "male" and not identify as "transgender." In contrast to the one-step version, the two-step version would capture the female assignment at birth and current male gender identity. Since there are such few large, probability-based studies of the transgender population, it is not clear how frequently this scenario may occur, but we believe the two-step version provides a better opportunity for accurate estimation relative to the one-step versions.

4.1 Implementation Decisions

Based on the findings of the CHIS 2014 gender identity pilot test, the full adult CHIS 2015 questionnaire included the two-step version one gender identity questions. In addition to translating into additional CHIS administration languages (Chinese, Korean, Vietnamese, and Tagalog), two modifications were made to the gender identity items fielded.

First, interview monitoring revealed that some noticeable proportion of adults paused when answering the first GI question ("What sex were you assigned at birth, on your original birth certificate"). Not only were there frequent noticeable pauses, respondents often said their response in upspeak, e.g., "male?" as if unsure of what response was expected. In an attempt to reduce uncertainty, we reworded the first GI question to include the responses in the question stem as follows:

On your original birth certificate, was your sex assigned as male or female?

Since we did not test this wording in the 2014 pilot-test, initial CHIS 2015 administration randomly assigned adult respondents to either the original wording or the revised wording.

Second, given the low frequency of transgender identification and the potential for measurement error to significantly impact transgender estimates, a confirmation question was added only for those who reported a current gender identity that differed from their sex assigned at birth. The confirmation question reads:

Just to confirm, you were assigned {MALE/FEMALE} at birth and now describe yourself as {FEMALE/MALE}. Is that correct?

This confirmation question may not be necessary, but given the potential for measurement error to overwhelm GI measurement, we felt that it was important to minimize potential and avoidable measurement error at this early stage of GI collection. We will monitor the performance of the confirmation question carefully to better assess the value of its inclusion. Given the low frequency of transgender reporting, the respondent burden is negligible. The larger concern is whether or not the additional question inhibits reporting of transgender status among this small, important group of respondents.

4.2 Survey implications for gender identity measurement

Finally, the inclusion of gender identity measures in a health survey such as CHIS raised additional issues about the conceptualization of gender and survey administration. CHIS, a telephone survey, frequently skips respondents in or out of questions based on self-reported sex. For example, "male" respondents may be asked about prostate-specific

antigen (PSA) testing, while "female" respondents are directed to questions about Pap smear testing. The addition of gender identity measures raises questions about to appropriately direct questions to respondents based on their reported gender and how to respectfully communicate with transgender respondents about these questionnaire items.

Since interviewers are not aware of the biological status of transgender respondents, our strategy is to read some additional text to respondents before asking sex-specific questions. Transition text before asking about PSA testing, for example, typically reads as: "These next questions are about men's health." For respondents assigned male at birth who now identify as female, the transition text will be altered to read "These next questions may be relevant to you because you were assigned male at birth. If not, please let me know and I will skip them."

5. Conclusion

Initial results from a pilot test of 4 versions of gender identity questions to nearly 3,000 adult respondents in the 2014 California Health Interview Survey suggest that it is possible to identify transgender persons. In particular, the two-step version 1 gender identity series described above was easy, fast, and simple to administer. Respondent difficulty answering or appropriately responding to these questions was not evident through data review or interview monitoring. Unweighted frequency responses match population expectations from the literature.

While preliminary, the CHIS experience suggests that gender identity questions can be added to other survey efforts to identify transgender adults. Given the paucity of existing population-based data on transgender populations and the low prevalence of transgender adults, it is imperative that such questions are included in CHIS and other large probability surveys in order to better understand the health, health-related outcomes, and well-being of this long too invisible population.

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